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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,391	06/19/2001	Takayuki Kifuku	Q64978	1332

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SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

SMITH, TYRONE W

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 06/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,391

Applicant(s)

KIFUKU ET AL.

Examiner

Tyrone W Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other:

DETAILED ACTION

1. The drawings are objected to because Applicant must expand on Figure 7. In Figure 7 between the current control, section (7) and the PWM inverter (4), the configuration shown is unclear to the Examiner. Examiner requests either a drawing change or show this in the specification. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-17 rejected under 35 U.S.C. 102(b) as being anticipated by Mori (JP 06-225573). Mori discloses a vector controller for an Induction Motor, which includes a PWM inverter/driver (Figure 3 #2) for the motor; a micro-controller which limits a motor current in accordance with an integrated value of a predetermined function of a phase current. The micro-controller for Mori's invention, as illustrated in Figure 9, analog-digital converters (7), current control section (6), coordinate transformation section (9 and 10), transducer (8) and an integrator (5). Also, refer to Figure 6 where the current control section includes limiter circuits (6e and 6f), PI controller (6a and 6c) and interference term compensation means (6c and 6d). The limiters limit the voltages to limit values of a ration of a voltage in the case of rating at the

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normal time, and when the voltages exceed the limit values; the previous voltages are used as the limited values and a coordinate conversion output by a primary voltage and a previous phase voltage.

Regarding Claims 7-11 and 15-16 refer to Mori section [0011] through section [0036].

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 18-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (JP 06-225573) in view of Okano (57774477). Mori discloses a vector controller for an Induction Motor as described in the previous rejection. Mori does not disclose/state a controller/microcontroller conducting a calculation in accordance with an absolute value, detected value and a target value of the phase current. Okano discloses a control apparatus for a motor (abstract, Figures 1-9, column 6 lines 35-67, column 7 lines 1-67, column 8 lines 1-14). It would have been obvious to one of ordinary skill in the art at the time of invention to combine Mori's invention of a vector controller for an Induction Motor with Okano's control apparatus for a motor. The advantage of combining the two would assure a vector control state even if the DC voltage of a PWM inverter were lowered in order to vector control a motor by the inverter having a current control system.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tyrone W Smith whose telephone number is 703-306-5987. The examiner can normally be reached on weekdays from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi, can be reached on (703) 308-3370. The fax phone number for the organization where this application or proceeding is assigned is 703-308-3431.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

Tyrone Smith

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ROBERT E. NAPPI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800